AMENDMENTS TO THE CLAIMS

The following **listing of claims** replaces all prior versions of claims in the application:

Claim 1 (currently amended): A mount suitable for passive-active vibration isolation in association with variable loading; said mount comprising a first member for attaching to a first entity, a second member for attaching to a second entity, at least one streamlined resilient element, a sensor and an actuator; said actuator approximately being characterized by an annular shape, a geometric circumference and a geometric center; said sensor being positioned approximately at said geometric center of said actuator; said actuator and said sensor sharing approximately the same functional direction; each of said at least one streamlined resilient element at least substantially consisting of an at least substantially solid elastomeric material; each of said at least one streamlined resilient element being interposed between said first member and said second member so as to be connected to said second member at a position corresponding to the interior of said geometric circumference; said first member approximately describing a first geometric plane; said second member approximately describing a second geometric plane that is approximately parallel to said first geometric plane; each of said at least one streamlined resilient element at least substantially describing a curved profile in a third geometric plane which perpendicularly intersects said first geometric plane and said second geometric plane; each of said at least one streamlined resilient element being characterized by low dynamic load transmissibility of vibration in a ~~approximately the same~~ passivity-related frequency bandwidth over a broad range of loading to which said streamlined resilient element is being subjected; said passivity-related frequency bandwith being approximately the same with

respect to each of said at least one streamlined resilient element; each of said at least one streamlined resilient element being characterized by nonlinear deflection when subjected to said loading; each of said at least one streamlined resilient element being predisposed to passively reducing vibration at said passivity-related frequency bandwith regardless of the extent of said loading, within said range, to which said streamlined resilient element is being subjected; said at least one streamlined resilient element thereby being capable of effectuating overall passive reduction of the transmission of vibration from said first member to said second member; said overall passive reduction being of vibration in approximately said passivity-related frequency bandwidth over a broad loading range of said first entity; said sensor being capable of generating a sensor signal; said actuator being capable of generating an actuator vibratory force; said sensor signal being representative of the vibration of said second member and being representable as a control signal; said actuator vibratory force being representative of said control signal; the combination including said sensor and said actuator thereby being capable of effectuating active reduction of the transmission of vibration which has reached said second member subsequent to the effectuating of said overall passive reduction; said active reduction being of vibration in an activity-related frequency bandwidth, said activity-related frequency bandwith differing from said passivity-related frequency bandwidth.

Claim 2 (previously presented): A mount as recited in claim 1, wherein at least one of said at least one streamlined resilient element includes at least one truncation surface, each of said at least one truncation surface adjoining one of said first member and said second member.

Claim 3 (previously presented): A mount as recited in claim 1, wherein each of said at least one

streamlined resilient element at least substantially describes a shape which is selected from the group consisting of sphere, prolate spheroid, cylinder, torus and torus segment, and wherein:

each of said at least one streamlined resilent element that at least substantially describes a cylinder shape approximately defines a longitudinal axis that is approximately parallel to said first geometric plane and said second geometric plane;

each of said at least one streamlined resilient element that at least substantially describes a torus shape approximately defines a geometric torus plane that is approximately parallel to said first geometric plane and said second geometric plane; and

each of said at least one streamlined resilient element that at least substantially describes a torus segment shape approximately defines a geometric longitudinal torus segment axis that lies in a geometric torus segment plane that is approximately parallel to said first geometric plane and said second geometric plane.

Claim 4 (previously presented): A mount as recited in claim 3, wherein at least one of said at least one streamlined resilient element includes at least one truncation surface, each of said at least one truncation surface adjoining one of said first member and said second member.

Claim 5 (canceled)

Claim 6 (canceled)

Claim 7 (original): A mount as recited in claim 1, wherein said broad loading range associated with said overall passive reduction is between a minimum load value and a multiple load value

of the minimum load value, and wherein said multiple load value is between approximately ten times and approximately one hundred times said minimum load value.

Claim 8 (currently amended): A vibration isolator which is adaptable for engagement with a processor/controller, said processor/controller being capable of generating a control signal, said vibration isolator comprising:

a spring assembly which includes a top member for securing said spring assembly with respect to an isolated entity, a bottom member for securing said spring assembly with respect to an isolatee entity, and at least one interposed streamlined resilient element , each of said at least one <u>interposed</u> streamlined resilient element being at least substantially solid and at least substantially composed of an elastomeric material, said top member approximately describing an imaginary top plane, said bottom member approximately describing an imaginary bottom plane which is approximately parallel to said imaginary top plane, each of said at least one <u>interposed</u> streamlined resilient element at least substantially describing a curved profile in an imaginary elemental plane which perpendicularly intersects said imaginary top plane and said imaginary bottom plane, each of said at least one <u>interposed</u> streamlined resilient element having the property of passively reducing vibration within a special passive-reduction-related frequency bandwidth which is at least substantially constant when said <u>interposed</u> streamlined resilient element is subjected to a wide range in terms of the degree of loading, each of said at least one <u>interposed</u> streamlined resilient element having the property of nonlinear deflection when subjected to a degree of said loading within said wide range, each of said at least one <u>interposed</u> streamlined resilient element passively reducing vibration at least substantially within said special passive-reduction-related frequency bandwith regardless of the degree of said loading

within said wide range, said at least one interposed streamlined resilient element thereby being capable in net effect of passively reducing vibration within a general passive-reduction-related frequency bandwidth which is approximately commensurate with said special passive-reduction-related bandwidth and which is at least substantially constant when said at least one interposed streamlined resilient element is subjected to a wide range in terms of the degree of loading which is associated with at least one of said isolated entity and said isolatee entity;

a sensor which is coupled with said bottom member and which is capable of generating a sensor signal which is in accordance with the vibration in said bottom member; and

an approximately ring-shaped actuator which is coupled with said bottom member and which is approximately concentrically paired with said sensor so that said sensor and said actuator are approximately characterized by a common operational direction, said actuator being capable of generating in said bottom member a vibratory force which is in accordance with said control signal, wherein said control signal is in accordance with said sensor signal which is generated by said sensor, wherein said vibratory force has the tendency of actively reducing vibration within an active-reduction-related frequency bandwidth which differs from said general passive-reduction-related bandwidth, wherein said actuator approximately describes an imaginary cylindrical actuator shape having an imaginary cylindrical actuator axis which perpendicularly intersects said imaginary top plane and said imaginary bottom plane, and wherein said at least one interposed streamlined resilient element is positioned at least substantially inside said imaginary cylindrical actuator shape which is approximately described by said actuator.

Claim 9 (canceled)

Claim 10 (currently amended): A vibration isolator as defined in claim 8, wherein at least one of said at least one interposed streamlined resilient element includes at least one truncation surface, each said truncation surface adjoining one of said top member and said bottom member.

Claim 11 (currently amended): A vibration isolator as defined in claim 8, wherein:

to at least a substantial degree, each said interposed streamlined resilient element has a shape which is selected from the group consisting of spherical, prolate spheroidal, cylindrical, toroidal and segmentedly toroidal;

said ~~cylindrical~~ interposed streamlined resilient element having a cylindrical shape approximately defines an imaginary central cylindrical elemental axis which is approximately intermediate and approximately parallel to said imaginary top plane and said imaginary bottom plane;

said ~~toroidal~~ interposed streamlined resilient element having a toroidal shape approximately defines an imaginary torroidal elemental plane which is approximately intermediate and approximately parallel to said imaginary top plane and said imaginary bottom plane; and

said ~~segmentedly toroidal~~ interposed streamlined resilient element having a segmentedly toroidal shape approximately defines an imaginary central axis which lies in an imaginary segmentedly torroidal elemental plane which is approximately intermediate and approximately parallel to said imaginary top plane and said imaginary bottom plane.

Claim 12 (currently amended): A vibration isolator as defined in claim 11, wherein at least one of said at least one interposed streamlined resilient element includes at least one truncation

surface, each said truncation surface adjoining one of said top member and said bottom member.

Claim 13 (original): A vibration isolator as defined in claim 8, wherein said wide range, in terms of the degree of loading which is associated with at least one of said isolated entity and said isolatee entity, is approximately a range which is between a minimum loading value and a maximum loading value, said maximum loading value being between ten times and one hundred times said minimum loading value.

Claim 14 (previously presented): A vibration isolation system; said vibration isolation system being for reducing the transmission of vibration of a first entity to a second entity; said vibration isolation system comprising a spring assembly and a feedback loop system; said spring assembly being for effectuating passive vibration control; said feedback loop system being for effectuating active vibration control subsequent to said effectuating of said passive vibration control; said spring assembly including a first securement member, a second securement member and at least one streamlined resilient element; each of said at least one streamlined resilient element being situated between and adjoining said first securement member and said second securement member; said first securement member being for securing said spring assembly with respect to said first entity; said second securement member being for securing said spring assembly with respect to said second entity; each of said at least one streamlined resilient member being essentially solid and essentially elastomeric; said at least one streamlined resilient element passively reducing the transmission of vibration of said first entity to said second entity; each of said at least one streamlined resilient element being characterized by nonlinear deflection when subjected to loading; said first securement member approximately describing a first geometric

plane; said second securement member approximately describing a second geometric plane which is approximately parallel to said first geometric plane; each of said at least one streamlined resilient element at least substantially describing a curved profile in a third geometric plane which perpendicularly intersects said first geometric plane and said second geometric plane; said passively reduced vibration existing in at least a first frequency bandwidth; said first frequency bandwidth being generally constant within a broad scope of the amount of loading upon said at least one streamlined resilient element by at least one of said first entity and said second entity; said at least one streamlined resilient element passively reducing vibration in said at least a first frequency bandwith regardless of the amount of loading upon said at least one streamlined element within said broad scope of the amount of loading; said feedback loop system including a sensor, a PID controller and an annular actuator; said sensor being coupled with said second securement member; said sensor generating a sensor signal which is a function of the vibration in said second securement member; said PID controller generating a control signal which is a function of said sensor signal; said annular actuator being coupled with said second securement member; said annular actuator generating, in said second securement member, a vibratory force which is a function of said control signal; said annular actuator, by said generating, actively reducing the transmission of vibration of said first entity to said second entity; said actively reduced vibration existing in at least a second frequency bandwidth; said at least a first frequency bandwidth and said at least a second frequency bandwidth being generally dissimilar; said sensor and said annular actuator being approximately coaxially situated ~~collocated~~ whereby the sensing of said sensor and the actuation of said actuator are approximately in the same direction; each of said at least one streamlined resilient element adjoining said second securement member at a location circumscribed by said annular actuator.

Claim 15 (previously presented): The vibration isolation system according to claim 14, wherein at least one of said at least one streamlined resilient element at least substantially defines a spherical shape that is approximately coaxially situated with respect to said annular actuator.

Claim 16 (previously presented): The vibration isolation system according to claim 14, wherein at least one of said at least one streamlined resilient element at least substantially defines a prolate spheroidal shape that is approximately coaxially situated with respect to said annular actuator.

Claim 17 (canceled)

Claim 18 (previously presented): The vibration isolation system according to claim 14, wherein at least one of said at least one streamlined resilient element at least substantially defines a torus shape that is approximately coaxially situated with respect to said annular actuator.

Claim 19 (previously presented): The vibration isolation system according to claim 14, wherein at least two of said at least one streamlined resilient element each at least substantially define a segmented torus shape and are situated so as to together approximately describe a torus shape that is approximately coaxially situated with respect to said annular actuator.

Claim 20 (previously presented): The vibration isolation system according to claim 14, wherein at least one of said at least one streamlined resilient element includes at least one truncation

surface, each said truncation surface adjoining one of said first securement member and said second securement member.

Claim 21 (original): The vibration isolation system according to claim 14, wherein said broad scope of the amount of loading approximately ranges between a minimum loading amount and a maximum loading amount, and wherein said maximum loading amount is approximately between ten times and one hundred times said minimum loading amount.

Claim 22 (previously presented): Apparatus for both passively and actively isolating the vibration of a structure situated over a foundation, said apparatus comprising:

a processor/controller;

a spring device which passively reduces the transmission of said vibration from said structure to said foundation, said spring device including an upper member for fixing said spring device with respect to said structure, a lower member for fixing said spring device with respect to said foundation, and at least one streamlined resilient element, wherein:

each of said at least one streamlined resilient element is solid and elastomeric and is so configured as to at least substantially exhibit the attribute of effecting passive reduction of the vibration existing at least nearly the identical frequency band over a significant range of the degree of loading imposed upon said streamlined resilient element;

each of said at least one streamlined resilient element has a configuration describing a curved profile in a third geometric plane which perpendicularly intersects a first geometric plane defined by said upper member and a second geometric plane defined

by said lower member;

said significant range is between a minimum degree of loading and a maximum degree of loading;

each of said at least one streamlined resilient element is characterized by nonlinear deflection when a degree of said loading within said significant range is imposed upon said streamlined resilient element;

said at least one streamlined resilient element effects passive reduction of vibration at least substantially within said significant range regardless of the degree of said loading, within said wide range, imposed upon said at least one streamlined resilient element;

said maximum degree of loading is no less than about ten times said minimum degree of loading;

said maximum degree of loading is no more than about one hundred times said minimum degree of loading; and

each of said at least one streamlined resilient element is so configured as to at least substantially describe one of a sphere, a prolate spheroid, a cylinder, a torus and a torus segment; and

the combination including a sensor and an annular actuator wherein:

said sensor and said actuator are each coupled with said lower member so that said sensor and said actuator are approximately aligned both centrically and directionally, and so that said actuator encompasses an area of said lower member;

said at least one streamlined resilient element is coupled with said upper member and is coupled with said lower member within said area of said lower member that is

encompassed by said actuator;

said sensor senses the local vibration in a portion of said lower member and produces an electrical sensor signal commensurate with said local vibration;

said processor/controller receives said electrical sensor signal from said sensor and produces an electrical control signal commensurate with said electrical sensor signal; and

said actuator receives said electrical control signal from said processor/controller and produces in said portion of said lower member a vibratory force commensurate with said electrical control signal, said vibratory force increasing the stability of said portion of said lower member, said actuator thereby effecting active reduction of the transmission of said vibration from said structure to said foundation whereby, in succession, said spring device passively reduces the transmission of said vibration and said actuator actively reduces the transmission of said vibration.

Claim 23 (previously presented): The apparatus according to claim 22, wherein at least one of said at least one streamlined resilient element is at least slightly truncated for facilitating connection to said upper member.

Claim 24 (previously presented): A method for reducing transmission of vibration of a first entity to a second entity, said method comprising:

providing a spring assembly which includes at least one streamlined resilient element, an upper securement member and a lower securement member, said at least one streamlined resilient element being situated between and attached to said upper securement member and said

lower securement member, said at least one streamlined resilient element being essentially solid and essentially elastomeric and being for passively reducing the transmission of vibration existing in at least a first plurality of frequencies, said first plurality of frequencies falling within a generally constant bandwidth in relation to a range of loading imposed upon said at least one streamlined resilient element by at least one of said first entity and said second entity, said range being between a minimum degree of loading and a maximum degree of loading, said upper securement member approximately describing a first geometric plane; said lower securement member approximately describing a second geometric plane, said first geometric plane and said second geometric plane being approximately parallel, each of said at least one streamlined resilient element being shaped so as to at least substantially describe a curved profile in a third geometric plane which perpendicularly intersects said first geometric plane and said second geometric plane, each of said at least one streamlined resilient element being characterized by nonlinear deflection when a degree of loading within said range is imposed upon said streamlined resilient element, said at least one streamlined resilient element effecting passive reduction of vibration at least substantially within said range regardless of the degree of loading within said range imposed upon said at least one streamlined resilient element; said maximum degree of loading being no less than about ten times said minimum degree of loading, said maximum degree of loading being no more than about one hundred times said minimum degree of loading, each of said at least one streamlined resilient element being shaped so as to at least substantially describe one of a sphere, a prolate spheroid, a cylinder, a torus and a torus segment; and

engaging with said spring assembly a feedback loop system, said engaging including:

approximately concentrically attaching a sensor and a generally ring-shaped

vibratory actuator to said lower securement member so that said sensor senses and said vibratory actuator actuates in approximately the same direction, and so that the attachment of said at least one streamlined resilient element to said lower securement member exists within the region of said lower securement member that is delimited by the attachment of said vibratory actuator to said lower securement member;

connecting said sensor and said vibratory actuator with a processor/controller so that said sensor generates a sensor signal representative of the vibration of said lower securement member, said processor-controller generates a control signal representative of said sensor signal, and said vibratory actuator generates a vibratory force representative of said control signal; and

providing power for said feedback loop system; and

mounting said first entity with respect to said second entity, said mounting including fastening said first entity with respect to said upper securement member and fastening said second entity with respect to said lower securement member;

wherein, in series, said spring assembly effects passive reduction of said vibration at said first plurality of frequencies, then said feedback loop system effects active reduction of said vibration at a second plurality of frequencies; and

wherein at least one frequency among said second plurality of frequencies is not among said first plurality of frequencies.

Claim 25 (original): A method for reducing transmission of vibration as recited in claim 24, wherein said providing a spring assembly includes:

providing a streamlined resilient element which has a first truncation surface and a second

truncation surface opposite said first truncation surface; and

joining said streamlined resilient element with each of said upper securement member and said lower securement member so that said first truncation surface abuts said upper securement member, and so that said second truncation surface abuts said lower securement member.

Claim 26 (original): A method for reducing transmission of vibration as recited in claim 25, wherein said providing a streamlined resilient element includes effecting said first truncation surface and effecting said second truncation surface.

Claim 27 (previously presented): The vibration isolation system according to claim 14, wherein at least one of said at least one streamlined resilient element at least substantially defines a cylindrical shape.

Claim 28 (previously presented): A mount as recited in claim 1, wherein at least one of said at least one streamlined resilient element at least substantially describes a torus shape that approximately defines a geometric torus plane and a geometric torus axis of symmetry, wherein:

said geometric torus plane is approximately parallel to said first geometric plane and said second geometric plane;

said geometric torus axis of symmetry is approximately perpendicular to said first geometric plane, said second geometric plane and said geometric torus plane; and

said geometric torus axis of symmetry approximately passes through said geometric center of said actuator.

Claim 29 (previously presented): A mount as recited in claim 1, wherein at least two of said at least one streamlined resilient element each at least substantially describe a torus segment shape so as to, in aggregation, approximately describe a torus shape that defines a geometric torus plane and a geometric torus axis of symmetry, wherein:

said geometric torus plane is approximately parallel to said first geometric plane and said second geometric plane;

said geometric torus axis of symmetry is approximately perpendicular to said first geometric plane, said second geometric plane and said geometric torus plane; and

said geometric torus axis of symmetry approximately passes through said geometric center of said actuator.

Claim 30 (previously presented): The vibration isolation system according to claim 14, wherein said at least one streamlined resilient element is approximately symmetrical with respect to the geometric axis with respect to which said sensor and said annular actuator are approximately coaxially situated.

Claim 31 (currently amended): The apparatus according to claim 22, wherein said at least one streamlined resilient element is characterized by approximate symmetry about a [[the]] geometric line, wherein said geometric line [[that]]:

is perpendicular to said first geometric plane and said second geometric plane; and

intersects a geometric point of said lower member corresponding to said ~~approximately concentric~~ approximate alignment of said sensor and said actuator.